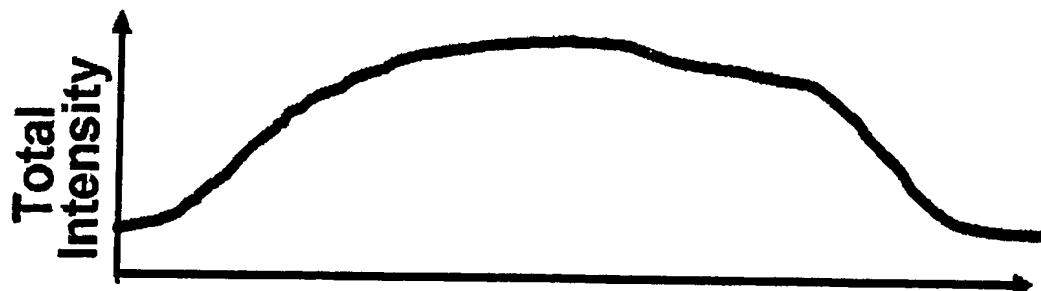
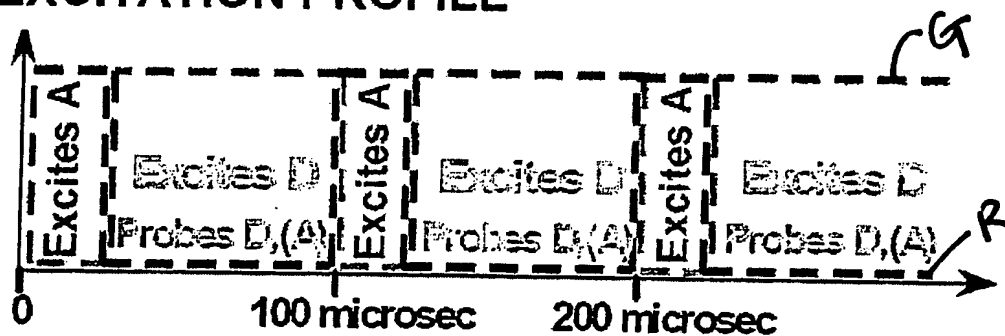


FIG. 1A

BURST PROFILE



EXCITATION PROFILE



**FIG. 1B**

**EMISSION PROFILES**

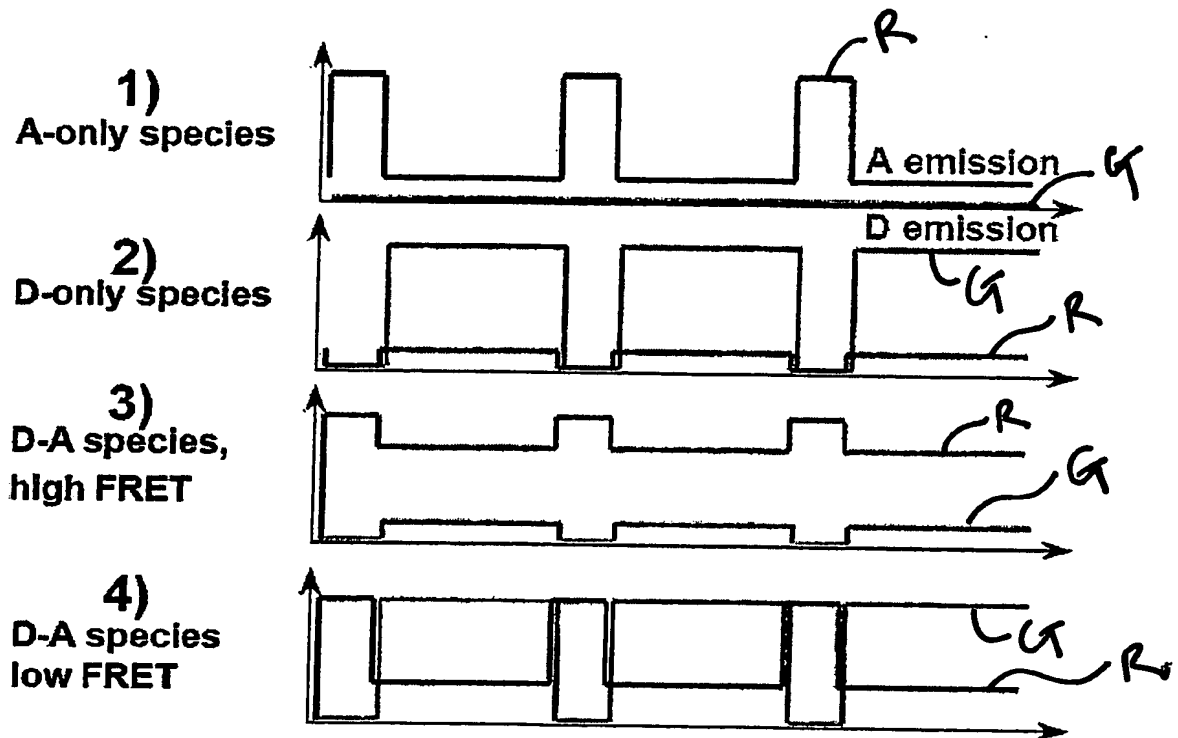


FIG. 1C

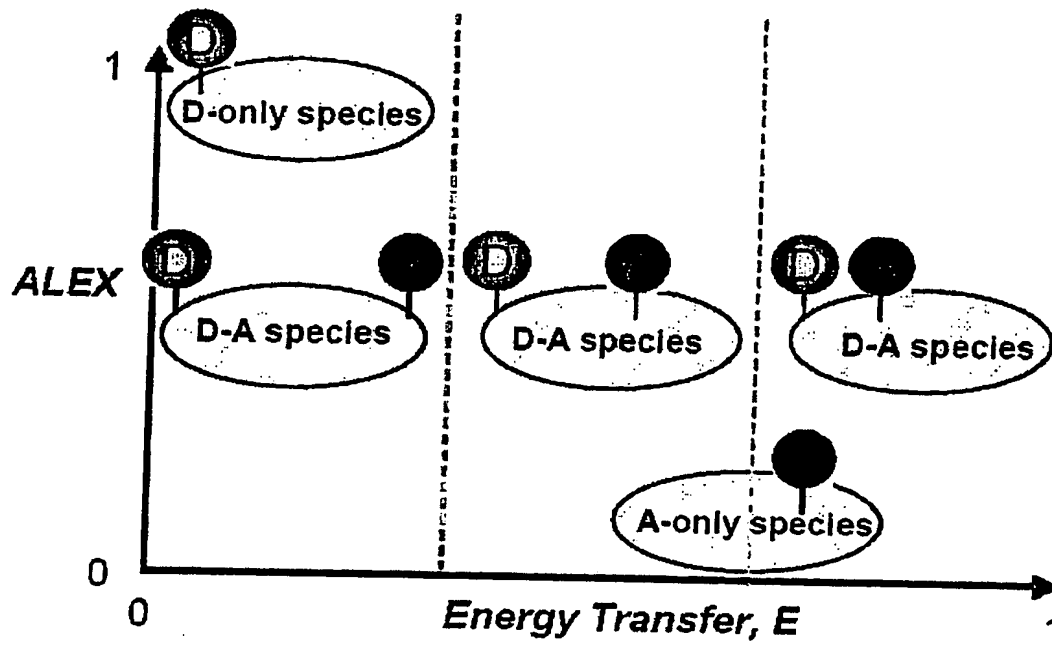
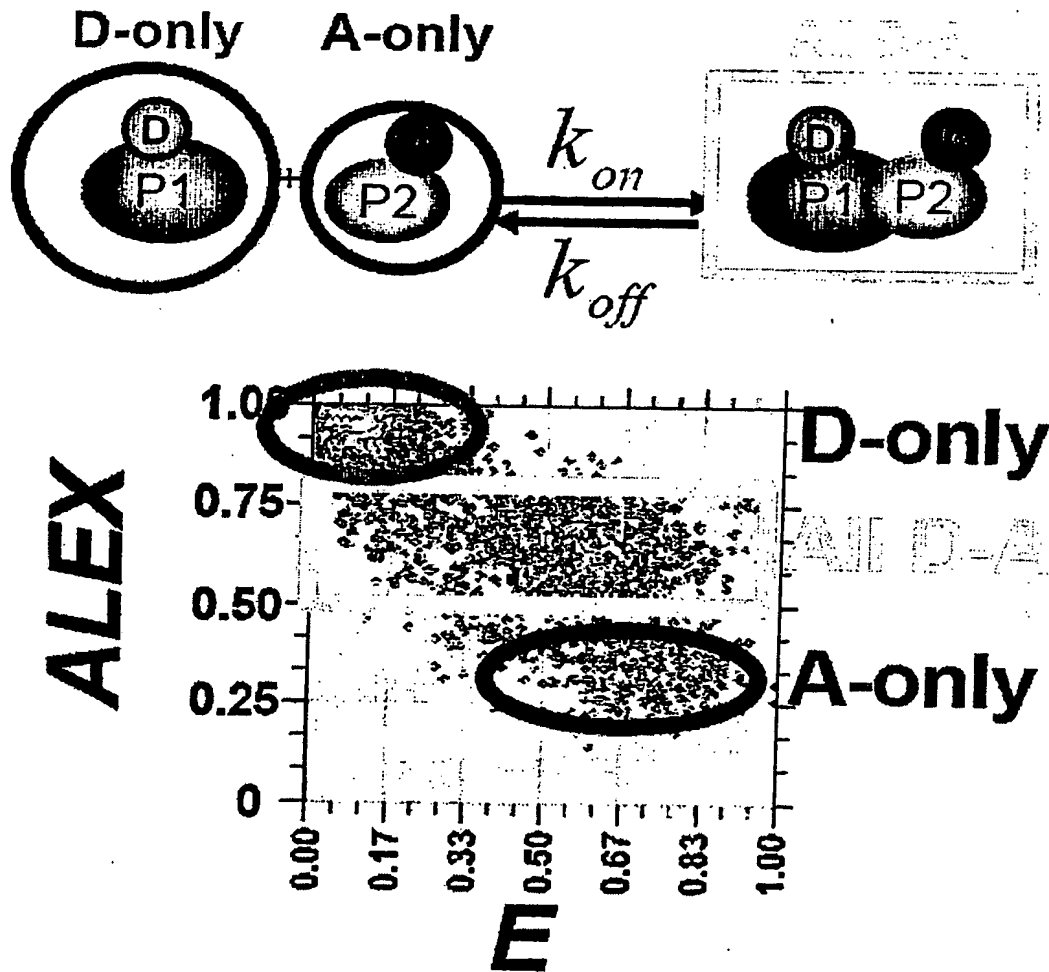
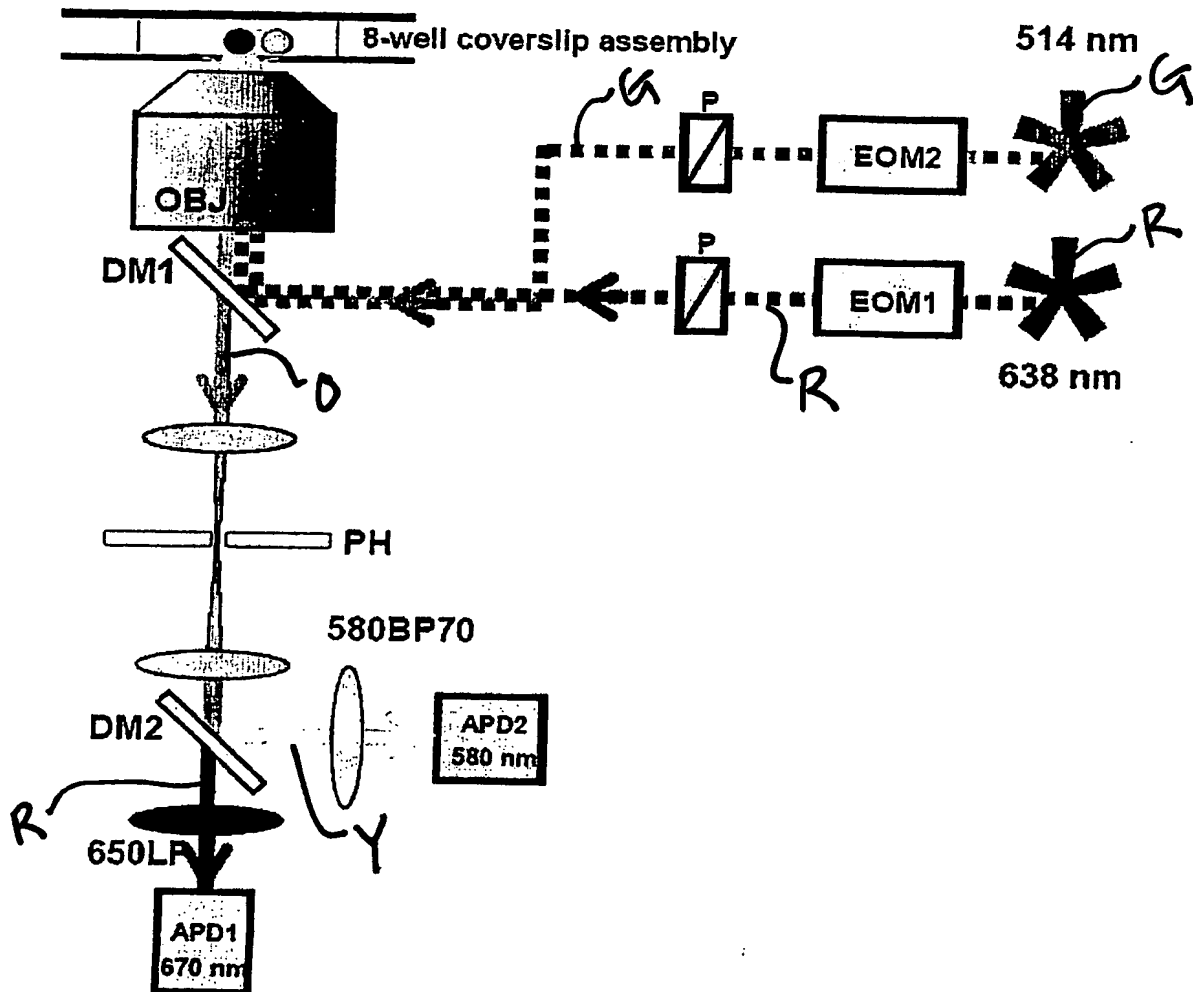


FIG. 2



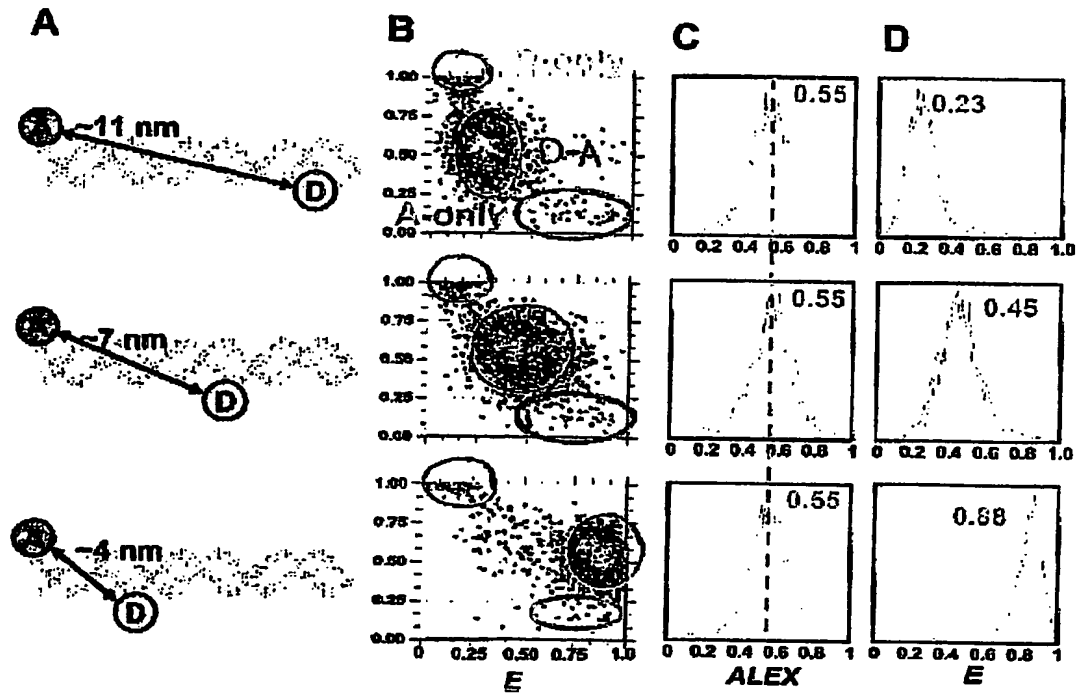
$$K_a = \frac{k_{on}}{k_{off}} = \frac{[P_1 P_2]}{[P_1][P_2]} \quad K_a = \frac{[P_1^D P_2^A]}{[P_1^D][P_2^A]}$$

FIG. 3



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FIG. 4



**FIG. 5**

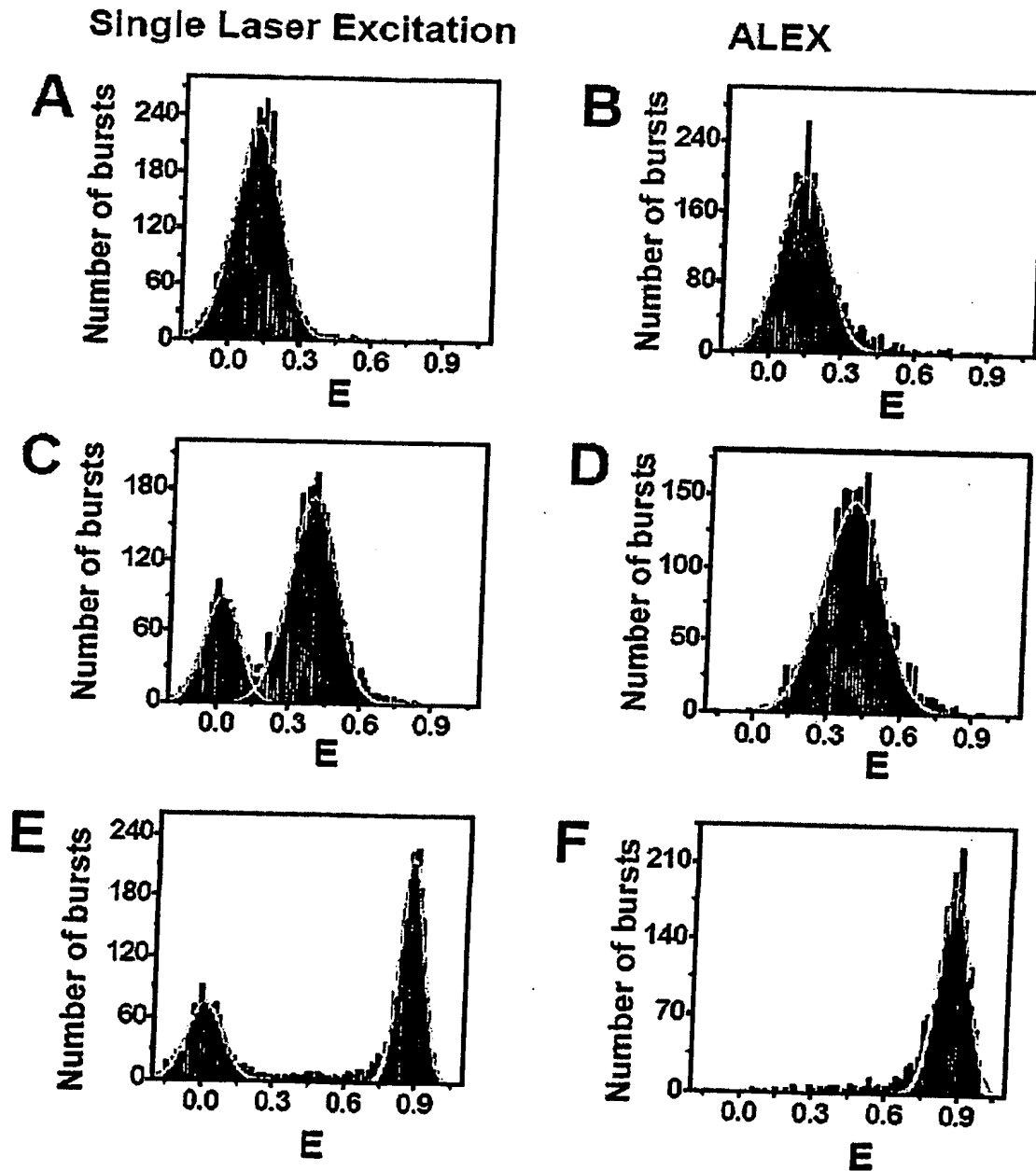


FIG. 6

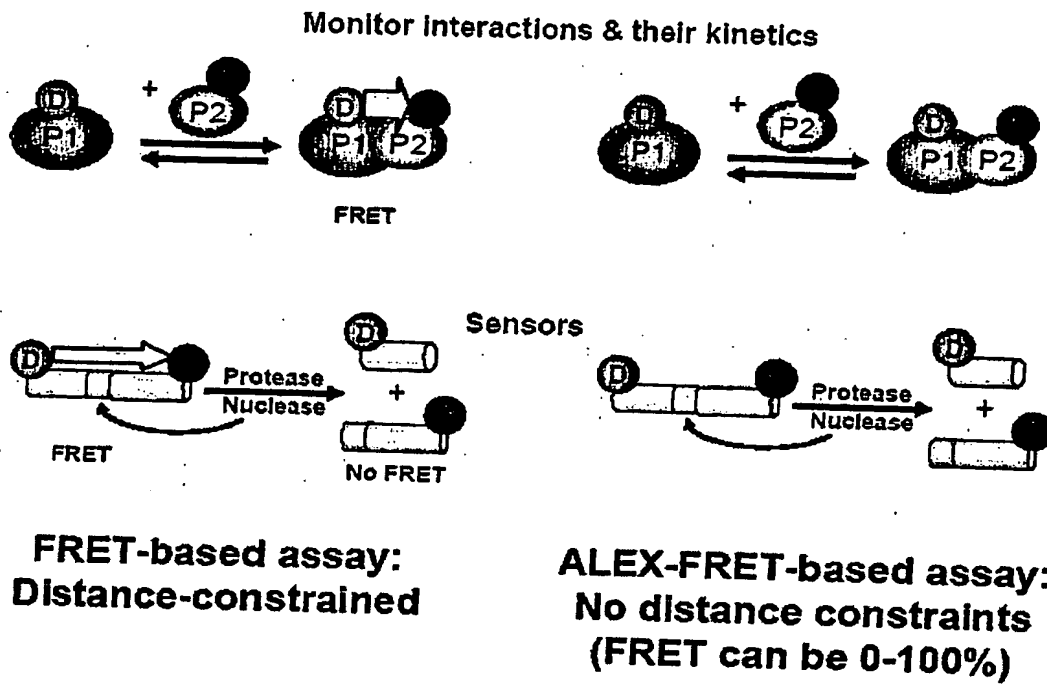




FIG. 7

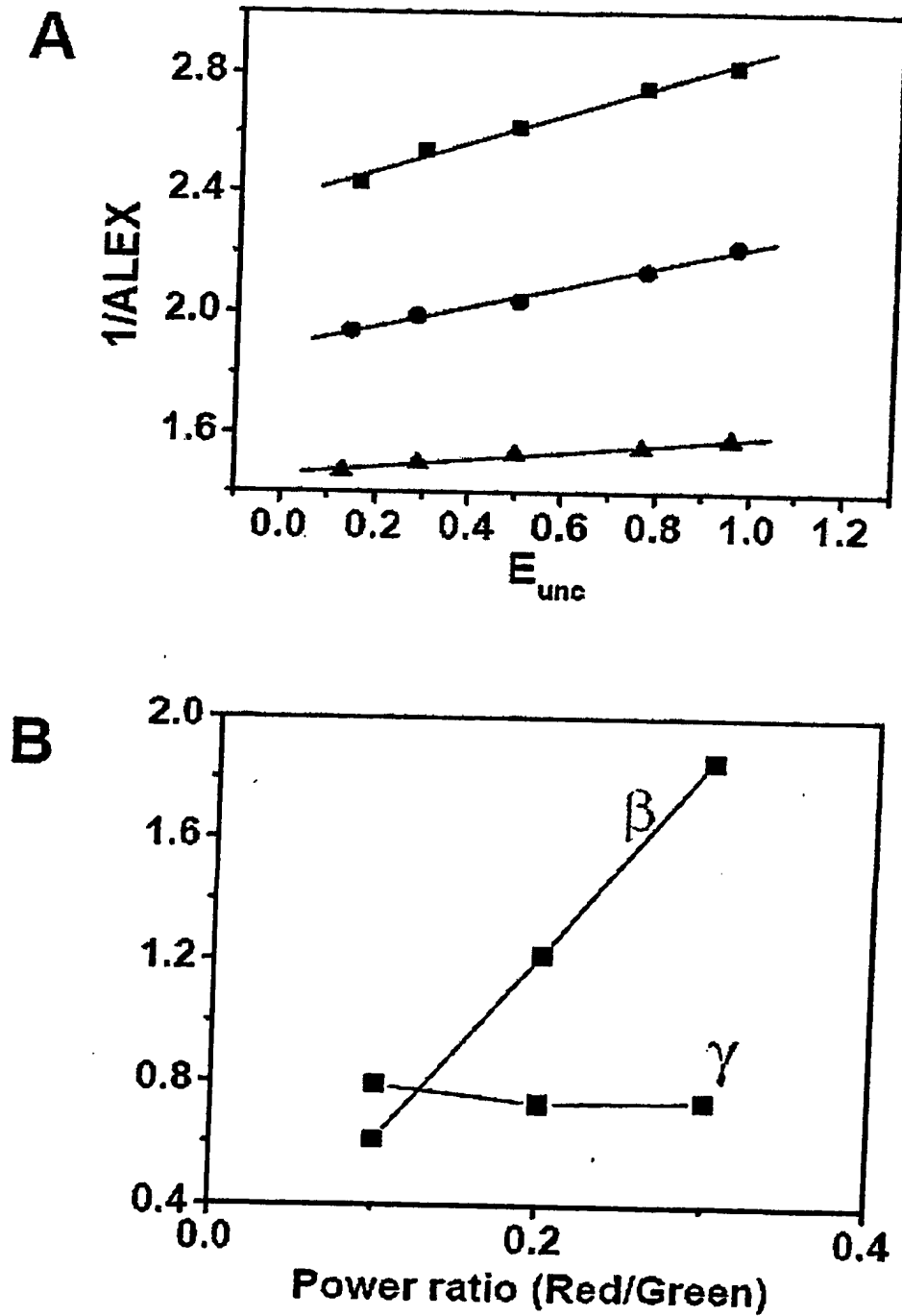
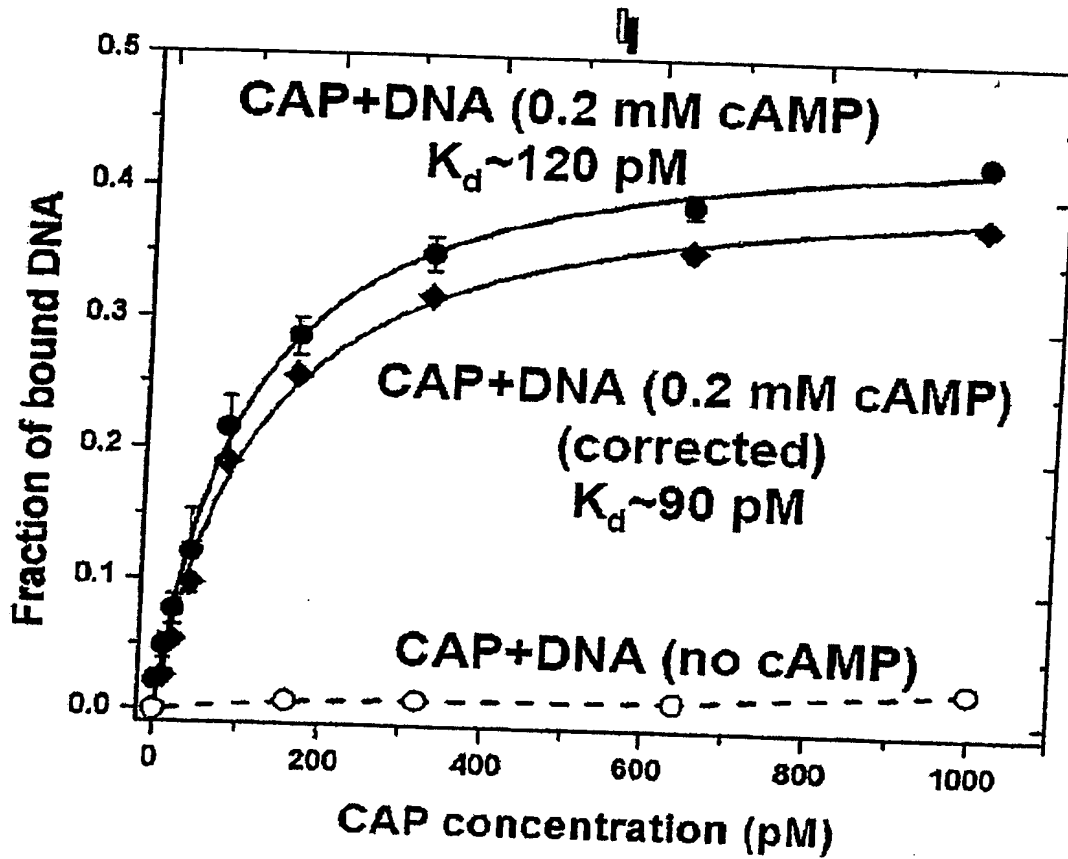


FIG. 8



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FIG. 9

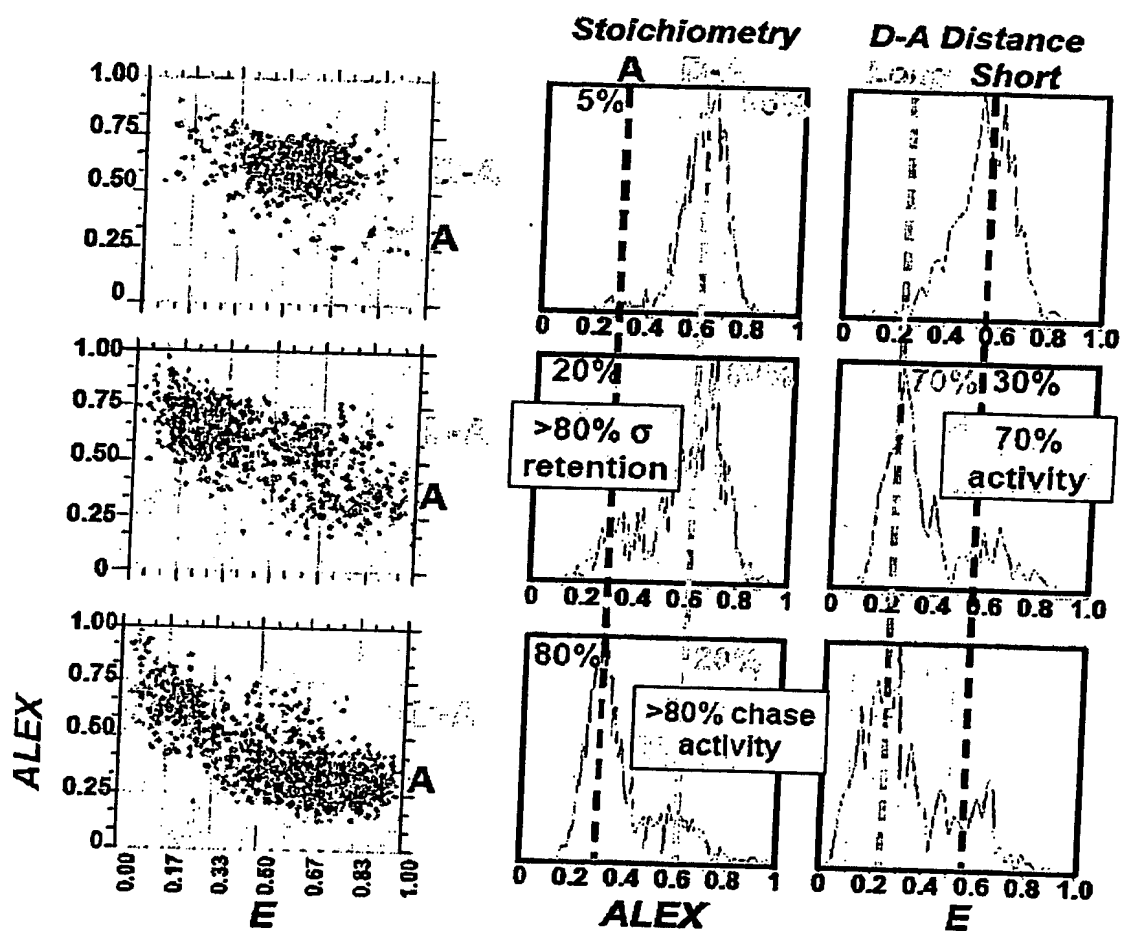


FIG. 10

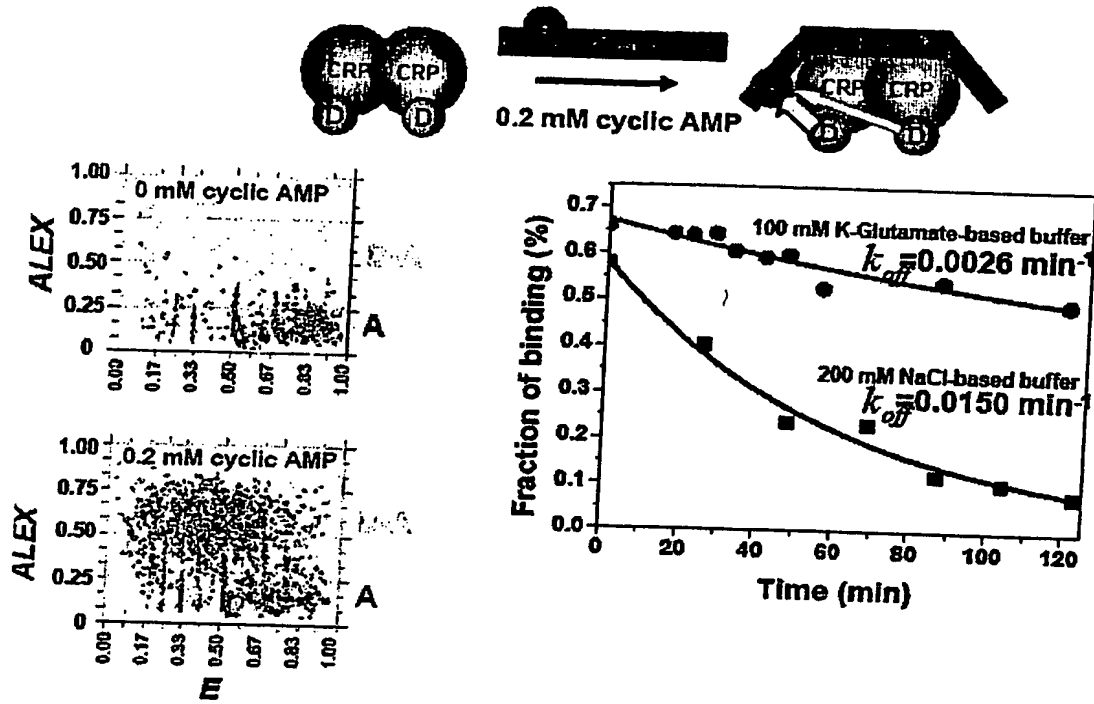
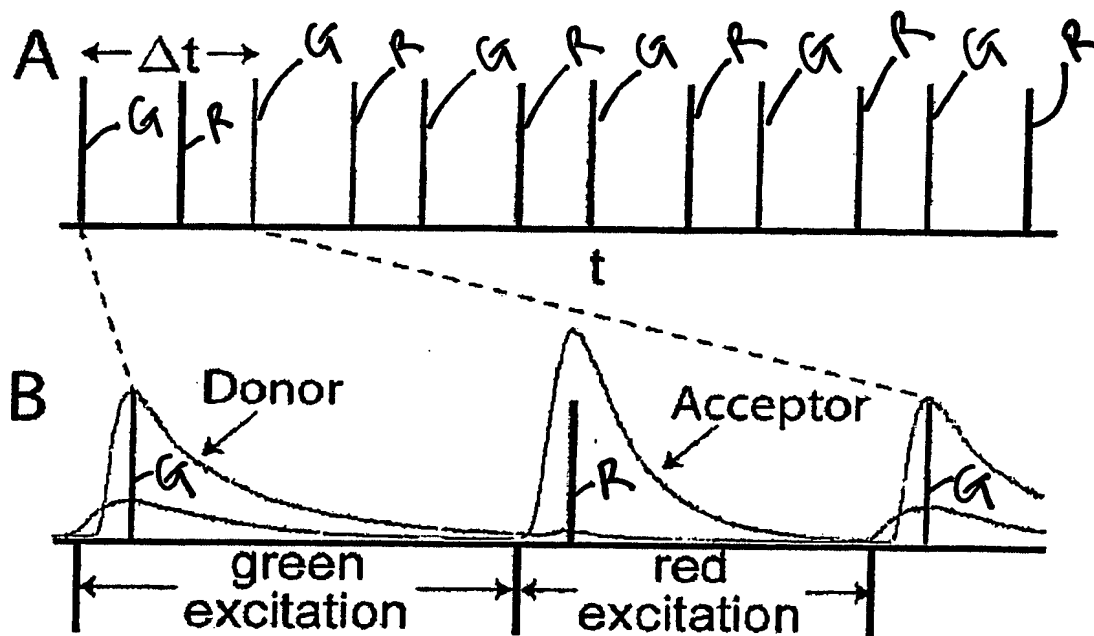


FIG. 11



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FIG. 12

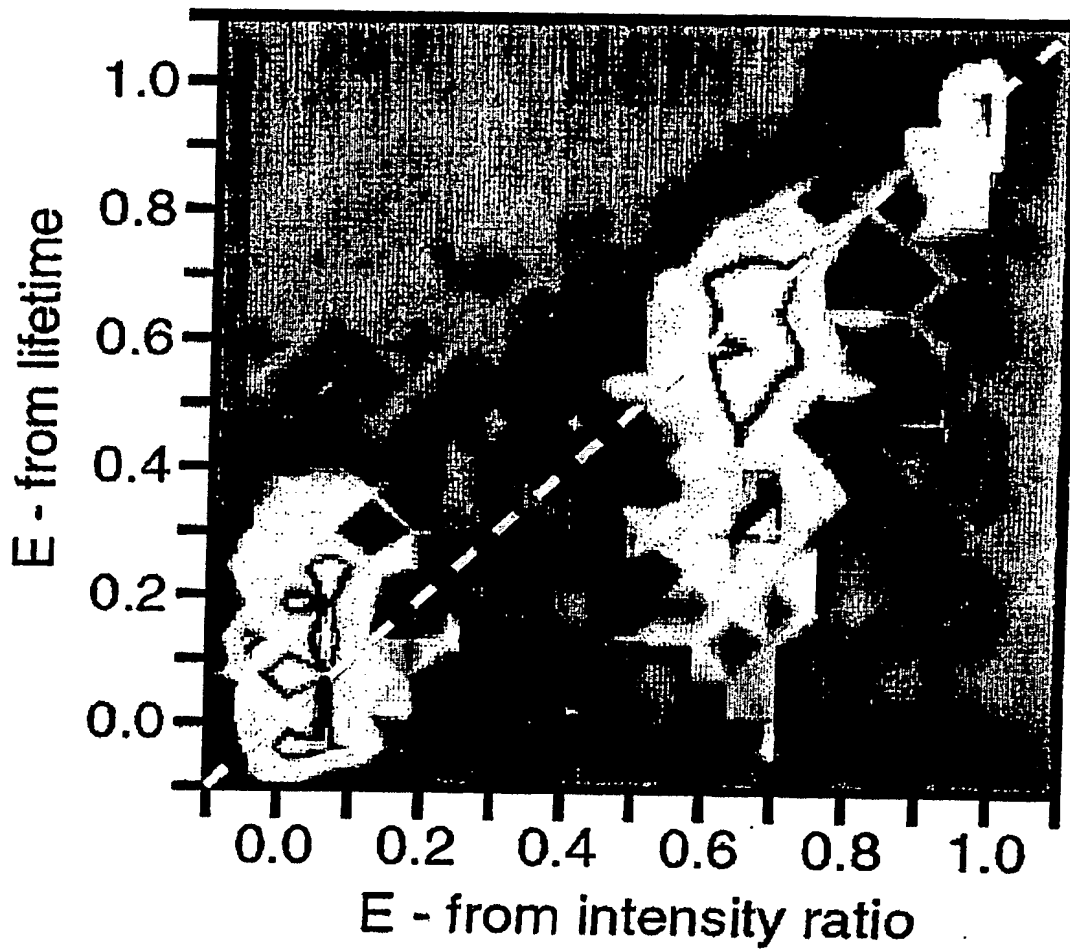
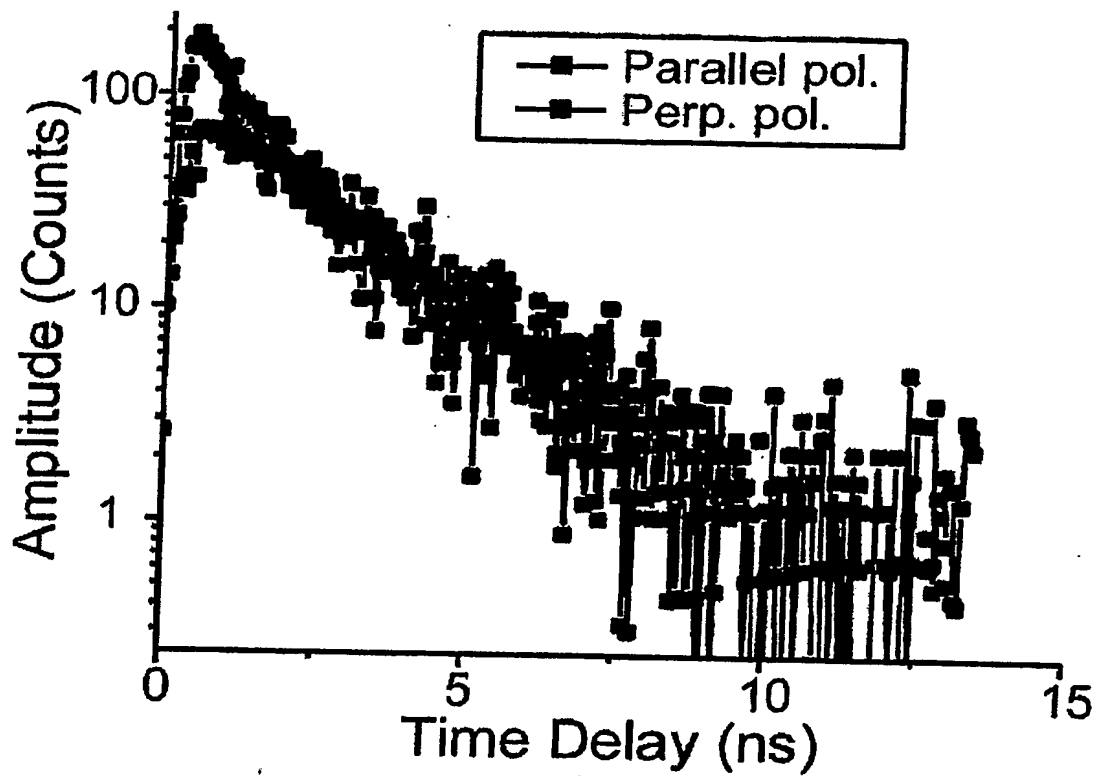
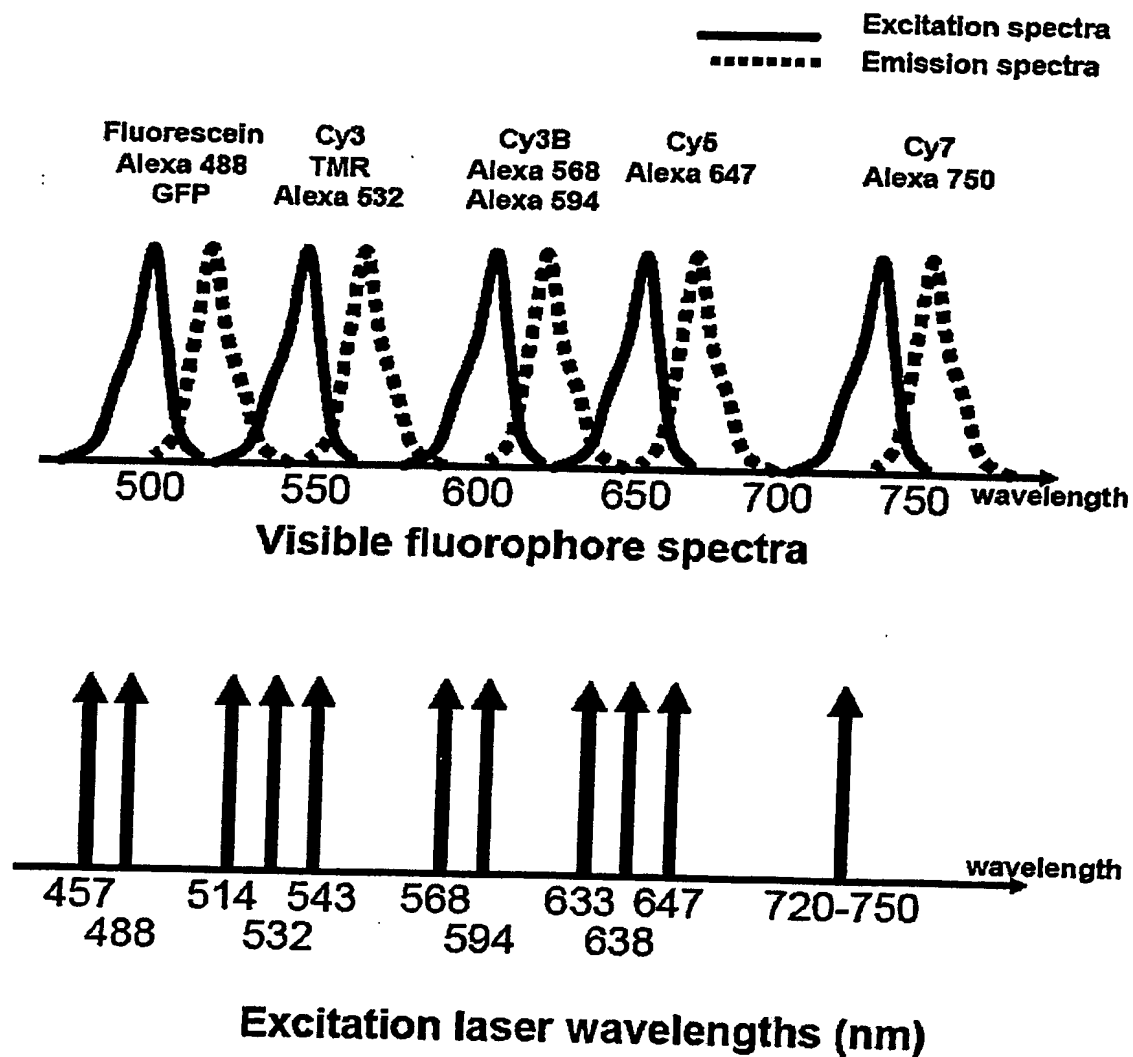


FIG. 13



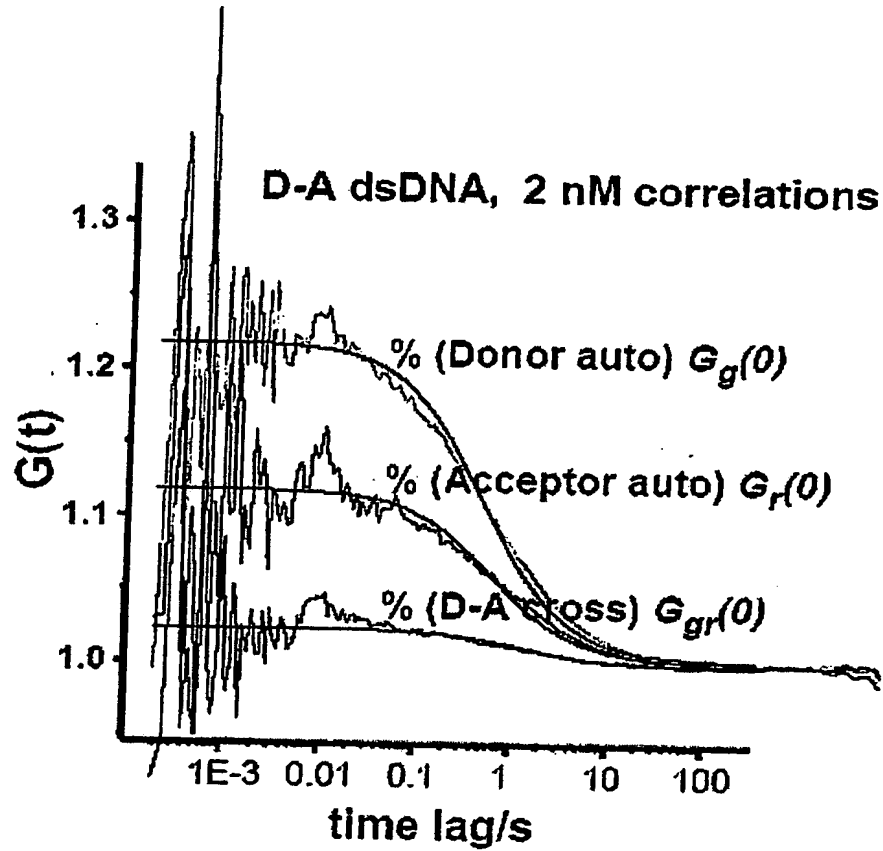
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**FIG. 14**





**FIG. 15**



s) Normalized Subpopulation Concentrations  $Y_D + Y_A + Y_{D,A} = 1$

$$G_g(0) = \frac{1}{N_{total}} \cdot \frac{Y_D + Y_{D,A}(1-E)^2}{[Y_D + Y_{D,A}(1-E)]^2}$$

$$G_r(0) = \frac{1}{N_{total}} \cdot \frac{Y_{D,A}E^2k^2 + Y_A}{(Y_{D,A}Ek + Y_A)^2}$$

$$G_{gr}(0) = \frac{1}{N_{total}} \cdot \frac{Y_{D,A}(1-E)Ek}{[Y_D + Y_{D,A}(1-E)][Y_{D,A}Ek + Y_A]}$$